What Is Claimed Is:

1. A thermal energy management system comprising:

a heat spreading device that is operatively engaged with at least one heat generating component; and

a thermal bus that is operatively engaged with said heat spreading device so as to transport thermal energy from said heat spreading device to a heat sink.

2. A thermal energy management system according to claim 1 wherein said heat spreading device comprises a heat pipe and said thermal bus comprises a loop thermosyphon.

3. A thermal energy management system according to claim 1 including a second thermal bus that is operatively engaged with said first thermal bus so as to transport thermal energy from said first thermal bus to a heat sink.

4. A thermal energy management system according to claim 3 wherein said second thermal bus comprises a loop thermosyphon.

5. A thermal energy management system according to claim 1 wherein said heat spreading device comprises a planar heat pipe arranged in thermal communication with said thermal bus so as to transport thermal energy away from said at least one heat generating component wherein said planar heat

pipe is sized and shaped so as to spread thermal energy over an area larger than the area of said at least one heat generating component.

6. A thermal energy management system according to claim 1 wherein said heat spreading device comprises a planar heat pipe including a vapor chamber that is defined between a top wall formed from a substantially uniform thickness sheet of a thermally conductive material and a bottom wall comprises a substantially uniform thickness sheet of a thermally conductive material.

7. A thermal energy management system according to claim 6 wherein said top wall and said bottom wall are spaced-apart by about 2.0 (mm) to about 4.0 (mm) so as to form a void space within said heat pipe that defines a vapor chamber, and further wherein said top wall comprises a substantially planer inner surface and said bottom wall comprises a substantially planar surface having an integrally formed wick.

8. A thermal energy management system according to claim 7 wherein said wick comprises is formed from a material selected from the group consisting of sintered copper powder, aluminum-silicon-carbide, or copper-silicon-carbide, and metal felt having an average thickness of about 0.5 mm to 2.0 mm and that is positioned over substantially all of said inner surface of said bottom wall.

9. A thermal energy management system according to claim 1 wherein said thermal bus comprises at least one loop-thermosyphon that is thermally engaged with said heat spreading device so as to bus thermal energy to a thermal energy sink.

10. A thermal energy management system according to claim 1 wherein said thermal bus comprises a loop thermosyphon formed from a closed tube having a continuous internal passageway and at least an evaporator portion including an integrally formed wicking layer disposed on the surface of said tube that defines said internal passageway adjacent to said evaporator portion.

11. A thermal energy management system according to claim 10 wherein said wicking layer comprises sintered copper powder having an average thickness of about 0.5 mm to 2.0 mm.

12. A thermal energy management system according to claim 9 wherein said loop thermosyphon comprises a condensing portion positioned in spaced away relation to an evaporator portion.

13. A thermal energy management system according to claim 1 wherein a portion of said thermal bus is arranged in intimate thermal contact with a wall of a support chassis.

14. A thermal energy management system according to claim 13 wherein said thermal bus is maintained in position by a simple fastening system so that it may be disassembled from an underlying electronic system and components.

15. A thermal energy management system according to claim 13 further comprising a second thermal bus positioned adjacent to a condensing portion of said thermal bus.

16. A thermal energy management system according to claim 15 wherein said second thermal bus comprises an evaporator portion located on an outer surface of a wall of a chassis that supports said at least one heat generating component so as to (i) receive thermal energy from a condensing portion of said thermal bus, and (ii) bus said thermal energy to a lower heat flux region of said chassis.

17. A thermal energy management system comprising:

a heat pipe heat spreader that is thermally engaged with at least one heat generating component; and

an evaporator plate positioned between a portion of said heat pipe heat spreader and an evaporation portion of a loop thermosyphon so as to transport thermal energy from said heat pipe heat spreader to a heat sink.

18. A thermal energy management system according to claim 17 wherein said evaporator plate provides a physical and thermal interface between a top wall of said heat pipe heat spreader and said evaporator portion of said loop-thermosyphon.

19. A thermal energy management system according to claim 17 wherein said evaporator plate is formed from a substantially uniform thickness sheet of a thermally conductive material that is sized and shaped to cover a portion of said top wall.

20. A thermal energy management system according to claim 19 wherein said at least one groove is formed in a top surface of said evaporator plate so as to receive and cradle said evaporator portion of said loop-thermosyphon.

21. A thermal energy management system comprising:

a heat pipe heat spreader that is operatively engaged with at least one heat generating component;

an evaporator plate positioned between a portion of said heat pipe heat spreader and an evaporation portion of a first loop thermosyphon so as to transport thermal energy from said heat pipe heat spreader to a heat sink; and

a second evaporator plate positioned between a condensing portion of said first loop thermosyphon and an evaporator portion of a second loop thermosyphon.

22. A thermal energy management system according to claim 21 wherein a wall of a chassis that supports said at least one heat generating component is located between said second evaporator plate and said condensing portion of said first loop thermosyphon.

23. A thermal energy management system according to claim 22 further comprising a locking mechanism for forcing said second evaporator plate into intimate thermal engagement and communication with said wall 63.

24. A method of managing thermal energy in an electronic system comprising:

spreading thermal energy generated by one or more devices over a surface that is relatively larger than said devices;

thermally coupling an evaporator portion of a loop thermosyphon to said surface; and

thermally coupling a condensing portion of said loop thermosyphon to a thermal energy sink.

25. A method of managing thermal energy in an electronic system comprising:

spreading thermal energy generated by one or more devices over a surface that is relatively larger than said devices;

thermally coupling an evaporator portion of a loop thermosyphon to said surface; and

thermally coupling a condensing portion of said loop thermosyphon to an evaporator portion of a second loop thermosyphon.